

# STRENGTHENING STEM SCHOLAR PROGRAMS

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*OCTOBER 24, 2009*

*AMES RESEARCH CENTER*

# Leadership

- Leaders must listen to themselves....to their own inner voices of direction, strength and conviction.
- Leaders place themselves aside so that the needs of others may prevail. They are gentle, strong, confident, and unyielding as needed, always following the tune of their inner voices.

# DEVELOPING STEM TALENT

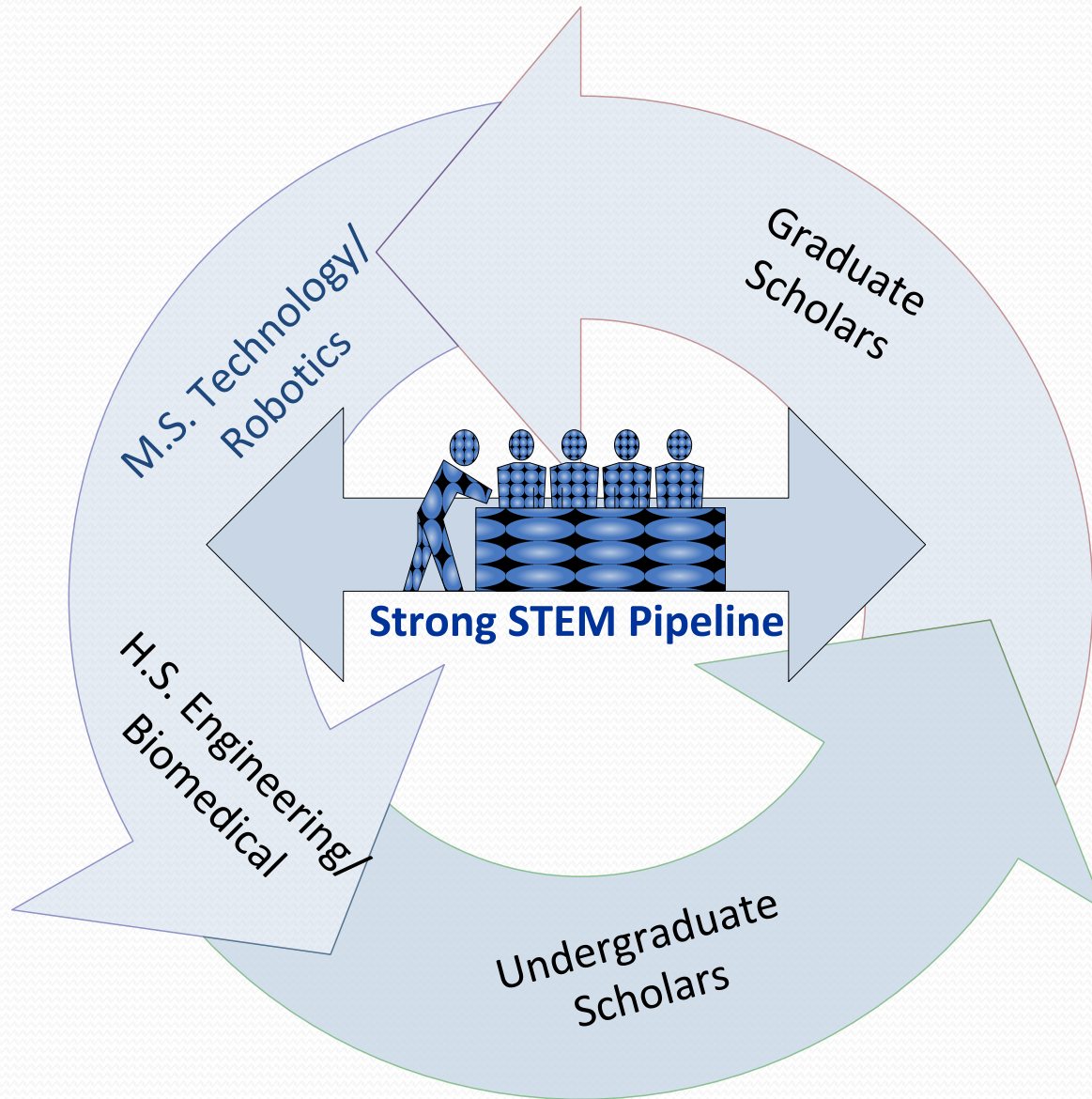
The following elements seem to be important in encouraging students to aim for mathematical and scientific careers, and many talent initiatives try to address these need:

- Solid preparation from an early age in math and science content
- Experience with hands-on content
- Awareness of the utility of school-based learning in the workplace
- Exposure to role models and mentors who work in these fields
- Access to peers who share these interests

# MIND ALTERING EVENTS



# Improving the STEM Pipeline for Women & Minorities



# Demographics 2008-09

- Wheaton High School

- Total Students - (1322)

- Male - (812) 61.4%
- Female - (510) 38.6%
- Asian - (146) 11.0%
- African Am. (297) 22.5%
- Hispanic - (741) 56.1%
- Indian - (1) 0.1%
- White - (137) 10.4%

- Academy of Engineering

- Total Students - (353)

- Male - (305) 86.4.
- Female - (48) 13.6%
- Asian - (36) 10.2%
- African Am.- (83) 23.5%
- Hispanic (196) 55.5%
- Indian (0) 0%
- White (38) 10.8%

- Academy of Engineering Students make up 26.7% of WHS student body

# 2009 Scholarships

• Binh Pham Lafayette		Electrical Engineering	\$52,489/yr	Total	\$209,956.00	
• Brian Koskey	Carnegie Mellon	Engineering (Undecided)	\$45,000/yr	Total	\$180,000.00	
• Theo Lorain-Hale	Iowa State	Electrical Engineering	\$31,556/yr	Total	\$126,224.00	
• Oscar Diez-Canseco	Penn State	Civil Engineering	\$31,000/yr	Total	\$124,000.00	
• Putie Kadir Syracuse		Civil Engineering	\$22,500/yr	Total	\$90,000.00	
• Nina Lachewitz	Wilson College	Exercise Sports Science	\$20,000/yr	Total	\$80,000.00	
• Tiffany McLean	Randolph Macon	Engineering (Undecided)	\$20,000/yr	Total	\$80,000.00	
• Marco Regalado	Univ. of MD CP	Mechanical Engineering	\$18,600/yr	Total	\$74,400.00	
• Karla Osorio	Penn State	Civil Engineering	\$16,000/yr	Total	\$64,000.00	
• Thomas Gardella	Univ. of Hartford	Civil Engineering	\$14,000/yr	Total	\$56,000.00	
• Marvin Padilla	Frostburg State	Civil Engineering	\$10,900/yr	Total	\$43,600.00	
• Hasitha Bentota	Penn State	Aerospace Engineering	\$6,000/yr	Total	\$24,000.00	
• DeShaun Budd-Bey	ITT Tech	Engineering (Undecided)	\$4,141/yr	Total	\$16,564.00	
• Karla Osorio	Penn State	ACE Scholarship		\$4,000/yr	Total	
• Jason Singh	Univ. of MD CP	Mechanical Engineering	\$4,000/yr	Total	\$16,000.00	
• Jacky Yuen	Montgomery College	Mechanical Engineering	\$3,500/yr	Total	\$14,000.00	
• Juan Diaz	Montgomery College	Electrical Engineering	\$3,000/yr	Total	\$12,000.00	
• Denis Gonzalez	Univ. of MD ES	Mechanical Engineering	\$3,000/yr	Total	\$12,000.00	
• Alex Rodas	Montgomery College	Engineering (Undecided)	\$2,700/yr	Total	\$10,800.00	
• Samad Ali	Montgomery College	Engineering (Undecided)	\$2,400/yr	Total	\$9,600.00	
• Taylor Martin	Univ. of MD CP	Civil Engineering	\$2,400/yr	Total	\$9,600.00	
• Sam Tripoulos	Montgomery College	Undecided	\$600.00/yr	Total	\$2,400.00	

Total \$1,271,144.00



# RECRUITING AND MAINTAINING THE TALENT



US News & World Report

America's  
**Best  
Colleges  
2010**

**WE'RE NUMBER 1**

# UMBC



#1 among up-and-coming national universities-"schools everyone should be watching"-in a list including Emory University, Rice University, Clemson University, University of California San Diego and Ohio State University

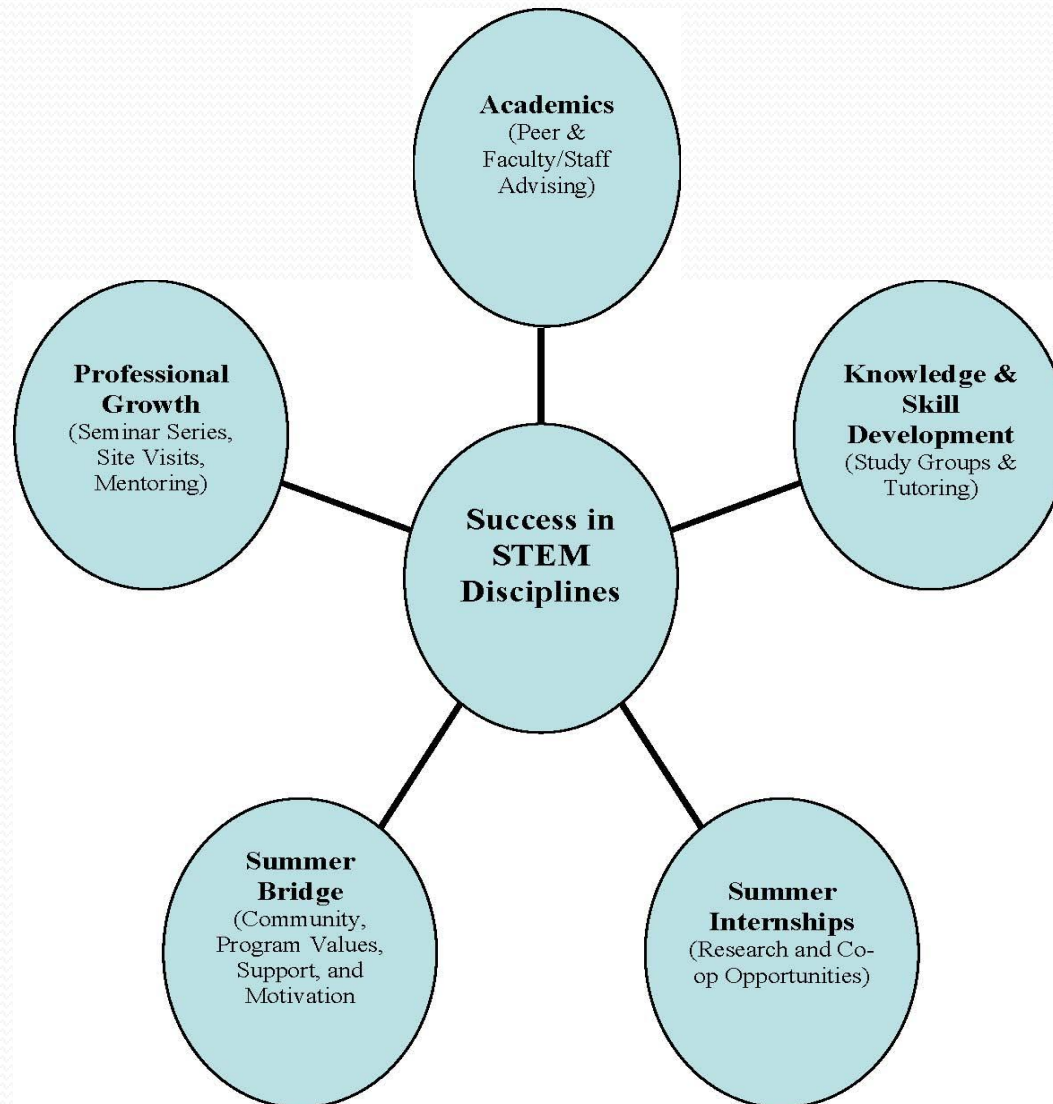
#1 public national university in undergraduate teaching, where we tied with Stanford at 4th among all national universities, just behind Dartmouth, Princeton and Yale

UMBC also joined Cal Tech, Duke University, Williams College, MIT and others in an unranked list of schools that give students outstanding opportunities for undergraduate research and creative projects.

# UMBC MAJOR GOALS

- Provide a distinctive undergraduate experience
- Continue to build research and graduate education
- Strengthen the relationship between UMBC and external partners, especially in the Baltimore-Washington region

# Meyerhoff Community of Proven Practices



## STAYING THE COURSE

African Americans



41.8%

Hispanics



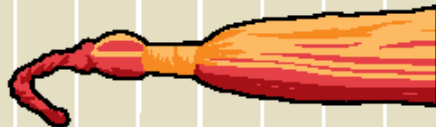
48.6%

ALL STUDENTS



64.6%

Whites



69.3%

Asian Americans



77.4%

**Elusive degree.** A minority of African-American and Hispanic students who begin as science majors actually graduate with a STEM degree.



**Success in situ.** Yohance Allette says the Meyerhoff program has helped him stay in biology.

# Developing STEM Scholars

CAN BE AS SIMPLE AS A,B,C:

A-Activate by inspiring, energizing scholars to set goals together with everyone's input

B-Behavior/Performance – giving STEM Scholars the opportunity to perform with their diversity, uniqueness and style

C-Consequences are governed by how the leader acts after accomplishments. Humility can take us all a long ways.

# DEVELOPING STEM SCHOLARS

